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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,652	12/30/2003	Yu-Chang Lin	11077-US-PA	1651
31561	7590	07/07/2006	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			WENDLER, ERIC J	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/707,652

Applicant(s)

LIN ET AL.

Examiner

Eric Wendler

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: EAST search history.

### DETAILED ACTION

1. This office action is responsive to the following communications: the Application filed on December 30, 2003.
2. Claims 1-9 are pending in the present application. Claims 1, 3, are independent claims.

### *Priority*

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. TW-92122455, filed on August 15, 2003.

### *Claim Objections*

4. Claim 5 is objected to because of the following informalities: the claim mentions "a multiplexer...said regular pre-decoded row address according temptempto a control signal." This is most likely a typographical error. The claim is being interpreted as -- according to--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by the US Patent to Kim (6,078,543).**

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7. **Regarding claims 1-2**, Kim teaches, in Figs. 1, 2, a system that performs a method for independently refreshing a memory capacitor, comprising a refresh controller (not shown, but taught in column 2, lines 58-64), coupled to an input terminal of a pre-decoded row address counter **30**, the output terminal of which is coupled to an input terminal of a pre-decoded row address re-driver **50, 60-n**. This system is sufficient to perform the functions of providing a refresh control signal from a refresh controller, the counter **30** counting a regular pre-decoded row address in response to a refresh control signal, determining one of an address counting data and an address signal according to a control signal, inputting the determined one of the address counting data and the address signal to the pre-decoded row address re-driver **50, 60-n** (column 1, lines 37-48; column 2, lines 58-64), inputting the regular pre-decoded row address to a pre-decoded row address re-driver **50, 60-n**, to obtain a row address (column 1, lines 48-67; column 2, lines 1-3), and refreshing a memory capacitor according to the row address.

8. **Regarding claim 3**, it encompasses the same scope of invention as that of claim 1 except it drafts the invention in apparatus format instead of method format. Kim teaches all the elements of the apparatus, as mentioned in the previous paragraph of the office action (counter **30**, re-driver **50, 60-n**, core device **10** or **100**), needed to perform the method claimed in claim 1. The aspects of the invention contained in claim 3 are therefore rejected in apparatus format for the same reasons claim 1 was rejected in method format.

**9. Claims 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by the US Patent to Kim (6,078,543) as supported by the US Patent to Haga (6,104,657).**

**10. Regarding claim 4**, while Kim does not explicitly teach that the pre-decoded row address counter **30** has N input terminals and has  $2^N$  pre-decoded row address lines, it is well known in the art to use 3-to-8 multiplexers or other similar devices as or with such counters, as shown by Haga (Figs. 4, 5, 27).

**11. Regarding claim 5**, the X-address predecoder **50**, taught by Kim, acts as a selecting device, for selecting a signal from an input terminal of the selecting device and outputting an address signal. While Kim does not explicitly teach a multiplexer coupled to the selecting device, for outputting one of the address signals and a regular pre-decoded row address according to a control signal, it is well known in the art to use multiplexers in such a way, as shown by Haga (Figs. 15, 18A-18B).

**12. Regarding claim 6**, while Kim does not explicitly teach that the selecting device is a NAND gate, this structure is well known in the art, as shown by Haga (Figs. 17, 23, 25).

**13. Regarding claim 7**, while Kim does not explicitly teach a multiplexer comprising two transmission gates, this structure is well known in the art, as shown by Haga (Figs. 18A-18B, 28A-28B).

**14. Regarding claim 8**, while Kim does not explicitly teach a first buffer coupled to the selecting device and the multiplexer, for receiving and stabilizing the address signal, and adjusting a transmitting rate of the address signal, or a second buffer, coupled to the selecting device, for receiving and stabilizing an address signal and a regular pre-

decoded row address, and for adjusting a transmitting rate of the address signal and the regular pre-decoded row address, it is well known in the art to have buffers perform these functions, as shown by Haga (Figs. 17-26).

15. **Regarding claim 9**, while Kim does not explicitly teach first and second buffers which are inverters, this structure is well known in the art, as shown by Haga (Figs. 17-26).

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Minato et al. (4,747,082), Manning (5,825,711), Schaefer (6,327,209), Andersen et al. (6,434,076), Leung (6,504,780), Shimano et al. (6,646,944), Lazar et al. (6,741,515), Nakashima et al. (US 2003/0161208), and Poechmueller (US 2005/0060488) teach methods and circuitry for refreshing capacitors in memory, using refresh controllers and counters, pre-decoders, row decoders, and word line drivers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wendler whose telephone number is (571) 272-5063. The examiner can normally be reached on Monday - Friday 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EJW  
6/16/06



ANH PHUNG  
PRIMARY EXAMINER